U.S. ARMY CHEMICAL MATERIALS AGENCY WWW.CMA.ARMY.MIL

CMA NEWS

June 2007

CELEBRATING **45 PERCENT** CHEMICAL DESTRUCTION MILESTONE

CHEMICAL DESTRUCTION 45% MILESTONE

Congratulations to everyone at the U.S. Army Chemical Materials Agency for reaching the 45 percent destruction milestone. This was a total team effort that included contributions at every level of the organization.

You have served your nation and the world well in achieving this milestone in a safe and environmentally sound manner. Your exceptional work has reduced the risk from the continued storage of the stockpile and established the United States as the world leader for compliance with the Chemical Weapons Convention (CWC). You can be especially proud of meeting this milestone in an exceptionally safe and environmentally sound manner.

Since the treaty entry into force date, CMA has destroyed a total of 13,775 U.S. tons of chemical agent to achieve the 45 percent destruction milestone. I am confident that you will continue to perform your daily work at the stockpile sites and non-stockpile facilities safely and in strict compliance with regulatory and CWC requirements. In his April 2006 Congressional notification regarding the CWC 100 percent destruction milestone extension, the Secretary of Defense acknowledged that we have encountered and overcome many challenges while eliminating our nation's chemical weapons.

Overcoming these challenges was a result of the hard work and dedication of the entire CMA team, including the headquarters and site staffs, as well as our partners from the U.S. Army Corps of Engineers and the contractors' staffs. Without the spirit of cooperation among all parties, we could not have reached this milestone in such an outstanding manner.

The U.S. Army took on the job of eliminating the threat of the continued storage of chemical weapons with the same gusto as it executes its missions of defending our nation against its enemies - one team, one fight.

As this vital work continues, the men and women involved in the chemical demilitarization program are grateful for the support and cooperation from its many partners, including the host installations and depots; each of the governor-appointed Citizens' Advisory Commissions; the U.S. Environmental Protection Agency; state regulatory agencies; Tribal nations; and other agencies such as the National Research Council, Centers for Disease Control and Prevention, and Federal Emergency Management Agency, which have guided, advised and supported the program. The degree of partnership the chemical demilitarization program fostered has been a key to its success.

Addressing the nation on chemical warfare in November 1969, President Richard Nixon said, "Mankind has carried in its own hands the seeds of its own destruction." We will not relax our vigilance until we complete the job of safely destroying these seeds of our destruction.

Congratulations to all on the achievement, and I look forward to working diligently together to finish the job.

Dale Ormond
Director, CMA (Acting)

OVERVIEW OF CHEMICAL DEMILITARIZATION IN THE UNITED STATES

The Period of Chemical Weapons Production

The United States produced unitary chemical weapons from 1917 to 1969. Between 1918 and 1942, the United States established stockpile sites around the nation containing both chemical munitions and bulk agent. Nerve agents were added to these stockpiles between 1952 and 1969. Over time, many of the older chemical munitions and bulk agent containers showed signs of aging. A 1969 study by the National Academy of Sciences recommended developing modern, factory-style demilitarization facilities as the best way to dispose of aging chemical weapons.

Photo courtesy of the U.S. Army

75 mm mustard shells being produced in an American munitions plant in 1918.

Designing their Destruction

The Army promptly adopted this recommendation. Over the next 12 years, the Army developed a series of first generation demilitarization facilities to dispose of chemical warfare materiel stored at the Rocky Mountain Arsenal in Commerce City near Denver, Colo. This is where the United States established its technical leadership in designing for safety, use of robotics, neutralization and incineration of agents, pollution abatement equipment, air monitoring equipment and protective clothing.

Anticipating a wider stockpile disposal program, the Army established a pilot plant at the Tooele Army Depot, now called the Deseret Chemical Depot, in Utah in 1979 to develop the next generation of equipment. Equipment developed there went on to become the basis for the next generation of chemical demilitarization facilities.

Much of the United States' early research in chemical weapons production was performed at the Edgewood Area of the Aberdeen Proving Ground, then called the Army Chemical Center, in the 1940s and 1950s.

Industrial-Scale Chemical Demilitarization Facilities

The Army developed the current generation of modern chemical demilitarization facilities at the Rocky Mountain Arsenal and the Chemical Agent Munitions Disposal System at Tooele Army Depot throughout the 1970s and 1980s. During this period the United States established its world leadership in the technology of safe destruction of chemical warfare material.

In 1983, the Army began design of the Johnston Atoll Chemical Agent Disposal System (JACADS), on an island 800 miles southwest of Hawaii. It became the prototype facility for the current generation of stockpile demilitarization plants.

When JACADS began operations in 1990, it became the nation's first modern, industrial-scale chemical demilitarization facility. It was joined by the Tooele Chemical Agent Disposal Facility in Utah in 1996.

Chemical Weapons Destruction Becomes International

On April 29, 1997 the Chemical Weapons Convention (CWC) grew to 65 member states, entering into force. Chemical agent destroyed at JACADS and Tooele counted toward the treaty milestones from that point forward. The U.S. Army Chemical Materials Agency (CMA) estimates that 1,582 tons of agent were destroyed before CWC entry into force.

Upon CWC entry into force, the United States demonstrated its commitment to the CWC's

The Deseret Chemical Depot in Utah held more than 44 percent of the nation's stockpiled chemical agent before the Tooele Chemical Agent Disposal Facility began operations in 1996. The ton containers were stored in Areas 2 and 10 at South Area, Tooele Army Depot in 1975.

goals by eliminating all of its most modern and deployable weapons early. All binary weapons components were destroyed. The United States also destroyed all 14 of the nation's former chemical weapons production facilities. All Category 3 unfilled chemical munitions and other chemical-weapon-unique components were also destroyed. Destruction of chemical munitions and bulk agent has progressed steadily with JACADS and the Aberdeen Chemical Agent Disposal Facility in Maryland having already destroyed their entire stockpiles. As a result, a large percentage of the chemical weapons destroyed in the world since then have been destroyed in the United States.

The United States helps other nations meet treaty obligations, too. The Organisation for the Prohibition of Chemical Weapons (OPCW), established under the CWC Treaty, provides for active support between member nations including exchanging information, conferences, internship programs and joint research projects. The United States fully participates in these activities.

Chemical Demilitarization in the Post 9/11 World

The Army became more keenly aware of its direct role in homeland security with 9/11 as the tragedy galvanized the nation. CMA accelerated its destruction program through engineering process changes at facilities under construction and increased protection of the stockpile sites.

The new millennium was a busy time for CMA. JACADS completed destruction operations in 2000. The Army's chemical demilitarization facilities at Anniston Chemical Depot, Ala., and Aberdeen Proving Ground, Md., came on line in 2003 and were joined by the facility at Umatilla Chemical Depot, Ore., in 2004. The facilities at Pine Bluff Arsenal, Ark., and Newport Chemical Depot, Ind., along with the Non-Stockpile Binary Destruction Facility at Pine Bluff Arsenal, all started in 2005. Aberdeen Chemical Agent Disposal Facility finished destroying its stockpile in 2006.

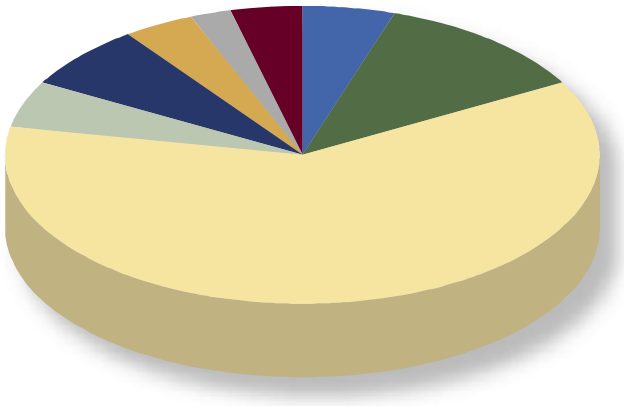
Reaching 100 Percent Destruction

The Army will continue to work diligently to destroy its remaining chemical warfare materiel, always placing the safety of workers, communities, and the environment first. The Army's chemical demilitarization operating facilities share lessons learned with each other and with other nations to enhance safety and efficiency. The United States will continue to assist CWC member nations with chemical demilitarization, even after reaching our 100-percent milestone. We all look forward to the day when chemical weapons exist only in history books.

CMA - CREATING A SAFER TOMORROW

45 PERCENT OF U.S. CHEMICAL AGENT STOCKPILE DESTROYED

(Chart represents each group's contribution as of June 18, 2007 to the 45 percent milestone.)



- **MARYLAND** 1,621.78 tons (11.8%)
- **ALABAMA** 620 tons (4.5%)
- **JOHNSTON ISLAND** 705.01 tons (5.1%)
- **INDIANA** 308 tons (2.2%)
- **NON-STOCKPILE MATERIEL** 563 tons (4.1%)
- **ARKANSAS** 483.71 tons (3.5%)
- **UTAH** 8,480 tons (61.6%)
- **OREGON** 994 tons (7.2%)

CMA TRIVIA

- Newport Chemical Depot, Ind., is home to two endangered species: the Indiana Bat and the Bald Eagle.
- Six private cemeteries, the earliest dating back to 1840, are within the boundaries of the Newport Chemical Depot, Ind.
- Constructing Newport's neutralization facility took 5,238 engineering drawings, 15,000 cubic yards of concrete, 1.5 million tons of steel and 286,000 linear feet of cable.
- Johnston Atoll currently—and also during disposal of its chemical weapons stockpile—supports 13 nesting species of seabirds, five species of shore birds, 32 species of coral, just over 300 species of fish, and the endangered sea turtle and Hawaiian monk seal.
- Aberdeen Proving Ground, site of the now closed Aberdeen Chemical Agent Disposal Facility, is less well known for its role in the development of the first atomic bomb.
- Fifteen-thousand tone-alert radios for homes and businesses are in place around Pine Bluff Arsenal.
- Deep-fried dill pickles are a popular treat in Anniston, Ala.
- The Umatilla Chemical Agent Disposal Facility contains 25,237 cubic yards of concrete.
- Contrary to popular belief, the Jackalope is not a native species at the Deseret, Pueblo or Umatilla Chemical Depots.
- Deseret Chemical Depot was selected as an alternate storage location for the atomic bombs to be used on Japan (but the bombs were never stored there).
- At one time, Deseret Chemical Depot had six rows of ton containers of chemical agent stored in the open on railroad irons. The containers lay side by side and each row was more than a mile long. (see photo on page 2)

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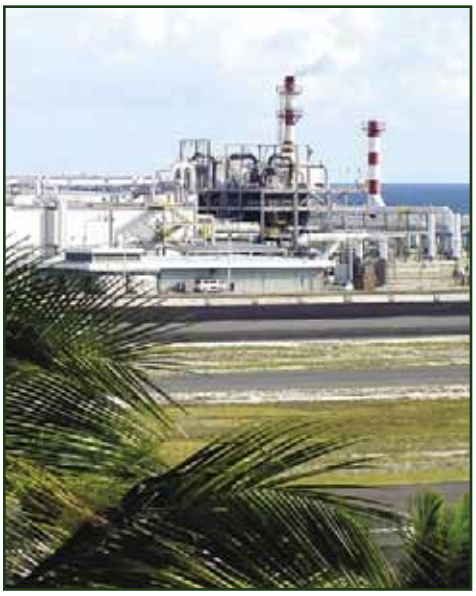


The Johnston Atoll Chemical Agent Disposal System (JACADS) was located on a tropical island in the Pacific Ocean about 800 miles southwest of Hawaii. JACADS provided a unique experience for all who lived and worked there.

A JACADS worker removes concrete structural material from the disposal facility as part of closure.

A baby tern stretches its wings on Johnston Island. As a national wildlife refuge, Johnston Island is home to millions of birds, some of which are tracked by a bird banding process.

JACADS' GREATEST ACCOMPLISHMENT: CHEMICAL DESTRUCTION LESSONS LEARNED

Sailing, swimming and scuba diving on an exotic island in the South Pacific are ingredients for a relaxing vacation, but for the men and women who worked at the Johnston Atoll Chemical Agent Disposal System (JACADS), these were simply extra curricular activities after a long day of destroying the nation's chemical weapons. But JACADS workers brought back more than just memories; they brought the entire Army chemical demilitarization program a wealth of lessons learned.

For years, Johnston Island was home to thousands working on the first full-scale disposal facility at one of nine U.S. sites that stored chemical weapons. These workers pioneered chemical demilitarization and paved the road for future successes at other sites on the way to reaching the 45 percent chemical destruction milestone. The facility operated from 1990 to 2003, destroying 2,031 tons of chemical agent and 412,732 munitions and bulk containers, representing 7 percent of the nation's stockpile before entry into force. JACADS completed agent and munitions destruction in late 2000 and finished closure of facilities in 2003.

> We have seeded all the other demil sites with dozens of people from JACADS with their experience.

The Army's Morale, Welfare and Recreation program provided recreational activities for island residents, such as sailing, scuba diving, canoeing, an outdoor movie theater, bowling, golfing, competitive swims and an annual "Atoll Man" mini-triathlon consisting of a six-mile run, an 18-mile bike ride, and a half-mile swim.

"There were just 1,000 unique things about Johnston Island that will never be reproduced anywhere," said John Perry, a safety engineer with CMA's Risk Management Directorate who worked on the project. One of Perry's favorite hobbies on the island was the bird banding project. The island is managed as a National Wildlife Refuge and bird banding is used to track some of the millions of birds that make the atoll their home.

Toward the end of the operation, the closure process at JACADS provided many lessons learned that were carried over to other sites.

"We have seeded all the other demil sites with dozens of people from JACADS with their experience," Perry said. "We learned a lot about demilitarization protective ensemble (DPE) suits, personal protection and making the alarm system work effectively. With over 10 years of experience, they learned to be efficient and effective with their monitoring and protective clothing. There were hundreds of small lessons learned along the way."

Rob Malone, an environmental scientist at Science Applications International Corporation, lived and worked on the island from 1998 through 2003. He then moved to Aberdeen, Md., to work on the chemical demilitarization project supporting the U.S. Chemical Materials Agency (CMA) headquarters.

Contrary to what he originally believed, Malone said that the physical disassembly of the plant was not the most difficult part of closure.

"Waste management is the toughest part of closure," he said, noting that characterizing waste by type based on the degree of agent contamination was time consuming and exacting. Under Army and U.S. Environmental Protection Agency (EPA) waste disposal regulations, there was no room for mistakes.

Another vital aspect of JACADS closure was determining the ability of steam treatment to fully decontaminate agent-exposed waste.

"We learned a lot of things the hard way in closure," Perry said. "We had to take the plant apart and run it through the furnace and it was like a dragon consuming its tail."

Scientists and engineers at the Aberdeen Chemical Agent Disposal Facility (ABCDF) at Aberdeen Proving Ground, Md., studied JACADS closure closely. Building on JACADS' decontamination and waste management lessons, ABCDF developed an industrial method of characterizing, segregating and disposing of its waste. The result was a safer and far more efficient system of waste management consisting of ongoing waste removal concurrent with operations and demolition. By contrast, JACADS placed its waste in storage and treated it at the end of operations.

"Aberdeen obviously set the tone on waste management and characterization. They demonstrated that secondary waste, even waste greater than 1 vapor screening level (VSL), the standard unit of contamination measurement at chemical demilitarization facilities, can be safely and effectively managed at commercial treatment, storage and disposal facilities," Malone said.

Tracking spills inside a plant is another technique that evolved as people moved from JACADS to ABCDF, sharing lessons learned. Although spills rarely occur, Malone said JACADS went into closure assuming entire areas were contaminated because there was no history to pinpoint spills. Demilitarization sites now use Computer Aided Design maps that pinpoint each spill in each room in the hot portion of a plant.

Malone said that at the time of JACADS closure, the Army was still using the "X" standard, denoting the degree of decontamination an item of agent-exposed waste has been exposed to, for ensuring safety. This did not allow for anything greater than 1 VSL to be managed off site.

One constant throughout the program, during the life of JACADS and at every one of the other sites, is that safety is the number one goal and is never compromised for schedule.

"We had to use a mixture of incineration, primarily the metal parts furnace (MPF), and Deactivation furnace system (DFS) for carbon," Malone said. "Things like mercury and arsenic posed a far greater incineration risk than agents because agents break up quickly when exposed to high temperatures. Heavy metals do not, so we had to chemically decontaminate these items and treat them as hazardous."

Many major processing lessons were generated during JACADS' 10 years of operations. For instance, engineers at JACADS modified the DFS heated discharge conveyor based on which type of munition or waste stream was being sent through the system. It needed to be reconfigured based on the munition.

"Lining up the conveyor to the munition was very important," Malone said. "When JACADS started, we had to go through operational verification testing, and had to jump from campaign to campaign quickly."

Malone said that one constant throughout the program, during the life of JACADS and at every one of the other sites, is that safety is the number one goal and is never compromised for schedule.

"Because it's so impactful, we have strict processes, training and safety procedures in place at all of the disposal facilities," Malone said. "This results in the injury rate at our demil facilities being lower than at an insurance office. That says a lot."

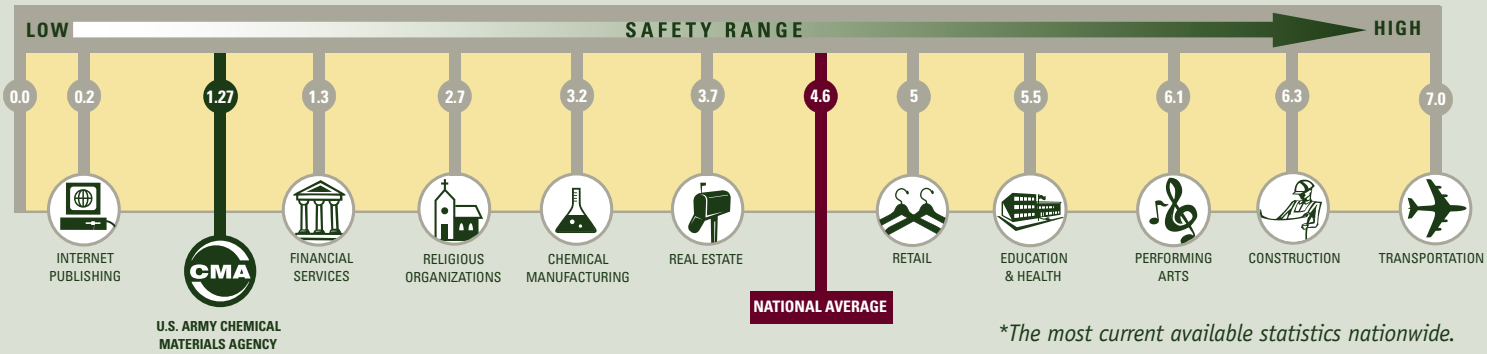
Looking back on his years at JACADS, Malone is proud of paddling with the island's outrigger canoe club and some of his competitive swim times, but proudest of all at how much he and his fellow workers were able to benefit the other sites in the Army's chemical demilitarization program with the lessons learned at JACADS.

"I look forward to getting back to an active site like that, but I feel my time's better served here to now ensure all sites have closure and secondary waste planning early on," Malone said.

HOW SAFE IS CMA?

Our 2005 recordable incidence rate (RIR) for every 200,000 hours worked averaged 1.27. According to the U.S. Department of Labor's 2005 statistics on workplace injuries and illnesses, this was more than three times safer than the national average of 4.6. As of May 2007, our 12-month rolling average RIR is 1.05.*

We aren't perfect and there is room for improvement as we head toward 100 percent destruction completion. But let your associates, friends and family know that we do our work well, that we do our work safely, and that we are hard at work solving a serious world problem. We are "Making Chemical Weapons History."



**The most current available statistics nationwide.*

THE ARMY'S EXPLOSIVE DESTRUCTION SYSTEM: TO THE RESCUE

When the former mustard agent and sarin production facilities at Rocky Mountain Arsenal (RMA) near Commerce City, Colo., were destroyed in 1999 as part of the United States' compliance with the Chemical Weapons Convention (CWC), it was a happy day for the facilities' neighbors—until workers performing a hazardous waste cleanup a few months later discovered six softball-sized sarin-filled bomblets in what was known as the RMA Boneyard.

Although the Army containerized the bomblets in place and kept them under round-the-clock surveillance, residents of a Denver suburb less than a half mile away wanted these bomblets, and any others that might be found during the environmental cleanup, safely destroyed.

Over the course of several months, experts from federal and state governments, including high-ranking Army officials and Senator Wayne Allard, worked together to determine the best destruction method for the bomblets. They sought a method that would ensure the safety of residents and RMA's workers and protection of the environment. Officials selected the Army's Explosive Destruction System (EDS), fresh out of developmental testing in the United Kingdom, for what would be its first real mission.

> Spring Valley turned into a media frenzy when 15 munitions were recovered in 2001 from the South Korean Ambassador's garden.

Sandia National Laboratory designed the EDS for the Army's Non-Stockpile Chemical Materiel Project, to safely dispose of munitions too unstable to transport.

"The EDS became a standard for all transportable chemical destruction systems," said Dave Hoffman, Group Leader for Systems Operations.

The EDS is a tailored solution providing cost-effective disposal and ensuring compliance with environmental regulations. The system opens and neutralizes chemical-filled and explosively configured munitions within its steel containment vessel. The vessel does not allow any blast, fragment or vapor release into the environment.

Operators at the Pine Bluff Explosive Destruction System (EDS) prepare to load munitions into the EDS' containment vessel. A fragment suppression system aligns the munitions and explosive charges, protecting the containment vessel's interior surfaces from fragments.

"The mission at Rocky Mountain Arsenal was a benchmark of the non-stockpile program," said Chuck Heyman, Chief of Systems Operations. "This EDS mission was by far the largest and most pressing, not to mention the heightened sense of urgency due to the presence of explosively configured GB bomblets less than a half mile from homes in the surrounding community."

Always a steward of public involvement and openness, NSCMP worked closely with residents to calm their fears. The RMA community embraced the EDS and between January and July of 2001 EDS successfully and safely destroyed all six bomblets and an additional four recovered in June. Destruction occurred with no impact to the citizens, their communities, the workers or the environment. NSCMP officials proved themselves and their new technology to the quiet mountain town.

After its initial performance at RMA, the EDS was called upon to respond to a politically-charged mission in a residential neighborhood in the Spring Valley area of Washington, D.C.

Spring Valley, home to both domestic and international high-ranking politicians and government officials, turned into a media frenzy when 15 munitions were recovered in 2001 from the South Korean Ambassador's garden. Workers from the U.S. Army Corps of Engineers (USACE) found the World War I-era munitions during an investigation and cleanup of the area and NSCMP recommended on-site treatment of the items using EDS.

"We wanted to remove the hazards of transporting the items, so we brought in the EDS," Hoffman said. "The system really proved itself at RMA and carried that reputation to Spring Valley. The EDS remains NSCMP's main technology due to the fact that it is able to safely treat recovered chemical munitions in public areas."

Prior to scheduling an EDS mission at Spring Valley, NSCMP and USACE officials conducted briefings with the Metropolitan Police bomb squad, the Environmental Protection Agency (EPA), the Washington, D.C., health department and the Spring Valley Restoration Advisory Board. All endorsed the use of the EDS versus the alternative of transporting the items to Pine Bluff Arsenal (PBA), Ark. In May 2003, NSCMP deployed the EDS to Spring Valley and successfully destroyed the 15 mustard-filled munitions—six of them explosively configured.

With a flawless safety record, no injuries and no chemical releases, the EDS continued its service during successful missions at the former Camp Sibert, Ala., Dugway Proving Ground, Utah, and Dover Air Force Base (DAFB), Del. DAFB officials requested EDS' service to destroy a mustard-filled 75 mm munition recovered from a residential driveway in southern Delaware.

"After extensive planning with the EPA regulators and witnessing first hand the EDS success at Spring Valley, those same officials were 100 percent in favor of using the system at Dover Air Force Base," said Greg Nielson, EDS System Manager. "It just goes to show the track record the EDS has established with the regulatory community."

Since the successful treatment in 2004, similar items have been recovered in Delaware, resulting in additional destruction operations at DAFB.

Since 2005 the EDS continues to successfully destroy chemical-filled items at Aberdeen Proving Ground (APG), Md.-Edgewood Area and continues an ongoing mission at PBA. Using three systems operating at the Pine Bluff Explosive Destruction System (PBEDS), 1,221 munitions are slated for disposal.

"This operation has proven for the first time that NSCMP can safely and cost effectively destroy a large number of recovered munitions with many different chemical fills in a relatively short period of time," said Steve Bird, Pine Bluff Group Leader.

The CWC treaty will give credit for treaty-declared munitions that the EDS has destroyed, contributing to the 45 percent destruction milestone. As of April 2007, the EDS has destroyed more than 1,000 chemical warfare items.

"There is no other transportable technology available that could have safely and successfully destroyed these items," Nielson said. "The EDS is responsible for a small, but critical percentage of tonnage toward the 45 percent milestone."

As for the future of EDS, NSCMP officials are working on long-range plans to help CMA with special munitions (rejects, leakers, etc.) and any emergency response missions that may occur. The possibility of discovering an obsolete chemical weapon is not something communities need to worry about on a day-to-day basis. However, it is reassuring to know that the Army is working hard behind the scenes, using technology that has been researched, tested and successfully implemented. The EDS' capabilities make it one of the most useful, reliable technologies available to the Army, while its accomplishments secure its place in the chemical weapons disposal history.

The transportable Explosive Destruction System (EDS) safely destroys recovered chemical warfare materiel. Known for its complete containment of blast, fragments and vapor, the EDS carries a reputation of safety and reliability to each mission.

CMA TRIVIA

- More than 1.1 million chemical agent munitions originally were stored at Deseret Chemical Depot, nearly 400,000 more munitions than at the next largest U.S. depot.
- TOCDF's "Iron Man" Dan Aldrich has made more than 1,100 toxic entries in the Demilitarization Protective Ensemble, an accomplishment that will likely never be reached again in the Chemical Weapons Demilitarization program. The average person loses approximately five pounds of weight in sweat during a single DPE entry, so, figuring the math, Iron Man has lost a total of approximately 5,500 pounds over the years.
- Groundbreaking for Pine Bluff Arsenal, Ark., was held Dec. 2, 1941, five days before the bombing of Pearl Harbor.
- The approximately 15,000 acres that make up Pine Bluff Arsenal, Ark., were purchased for $250,000—less than $17 an acre.
- Pine Bluff Arsenal, Ark., held the country's largest inventory of M55 rockets—more than 99,000.
- In 1987 Pine Bluff Arsenal, Ark., became, and remains today, the only military installation in Arkansas to receive the Secretary of Defense Environmental Quality Award.
- Up to 7,000 construction workers helped build Umatilla Army Depot, Ore., in 1941. At that time Hermiston's (the nearest town) population was approximately 800 people.
- Umatilla Chemical Depot, Ore., is named for the Umatilla American Indian tribe.
- Joan Didion (National Book Award winner), Michael Moore (Oscar winner), Alex Tizon (Pulitzer Prize winner), and Peter Van Sant and Steve Kroft (Emmy winners) have all visited Umatilla Chemical Depot, Ore., to do stories.

CDTF: FOUNDATION FOR TRAINING

Aberdeen Proving Ground's Edgewood Area in Maryland is well known as the location of the U.S. Army Chemical Materials Agency (CMA) headquarters and the first chemical demilitarization site in the continental United States to safely destroy all of its chemical agent and close. However, it is home to another notable CMA landmark, the Chemical Demilitarization Training Facility (CDTF).

If you operate or maintain equipment, or provide laboratory and monitoring support at any of the site chemical demilitarization facilities, you have been trained at the CDTF. The CDTF provides hands-on training in a realistic setting, with everything except chemical agent. For example, Martin Via, a maintenance mechanic with Washington Group International at the Pine Bluff Chemical Agent Disposal Facility, has three more training classes to complete

Martin Via, *Maintenance Mechanic*
Pine Bluff Chemical Agent Disposal Facility

before he begins full-time shift work in June. Via began training at the CDTF in February and said his training has been very thorough, and always stresses safety.

"The training I've received so far is really preparing me for my new job. I'm familiar with environmental cleanup and I will spend as many as two to three hours in a protective suit when I work in the toxic areas. I want to be safe," Via said.

> "I will spend as many as two to three hours in a protective suit when I work in the toxic areas. I want to be safe."

The training program includes 280 laboratory, maintenance, operations and emergency response training courses as well as general safety, health and environmental training courses. Students are trained in jobs such as munitions handler, automatic continuous air monitoring system technician, and furnace operator. More than 51,000 people, including contractors, government oversight officials and international inspectors, have been trained at the CDTF.

Via added that a typical training day starts at 7 a.m. and runs until 3:30 p.m., with some classes having up to seven students, and others held one-on-one.

"The classes that are one-on-one allow students to dig into the topic of the day. We get a certificate of completion at the end of our training, after we pass a test," Via said. "We feel like we really earned those certificates."

Classes range from 10 days to three months. They include a mix of classroom instruction and hands-on exercises. Training is determined by job criteria, and is designed to help students easily transfer skills to the demilitarization sites.

Opened in 1991, the CDTF's creation was mandated by Congress in a 1985 addendum to the Department of Defense's directive to safely dispose of the nation's chemical weapons stockpiles. The CDTF was conceived as a way to provide programmatic training support to demilitarization personnel.

Since beginning operations, courses have been continuously evaluated to ensure accuracy and effectiveness. They are revised

Historical photo of CMA worker in training at the CDTF.

as the work evolves and procedures change. In addition to the training programs, the CDTF houses a Test and Evaluation team that provides technical support. Tours are also given at the CDTF for new employees to learn more about CMA.

The CDTF celebrated 15 consecutive years without a lost-time accident last year. Beverly Bunch, CDTF Safety, Health and Environmental leader, attributed this to the everyday vigilance of the CDTF personnel.

"Everybody knows the rules and what they're supposed to do," she said. "We hold mandatory safety training every month hosted by different departments that showcase special safety messages. There is also a lot of peer support. We look out for one another to make sure everyone is a player in the safety program."

No lost-time accidents in more than 15 years shows just how serious CDTF instructors and trainees are about safety. CDTF graduates take this safety ethic to the sites, making the facility an important part of CMA's success in safely reaching the 45 percent destruction milestone.